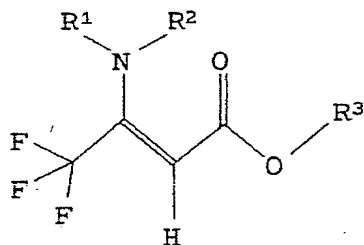


What is claimed is:

1. A process for preparing 3-amino-4,4,4-trifluorocrotonic esters of the formula (I) or the E/Z-isomers or tautomeric forms thereof



(I)

where

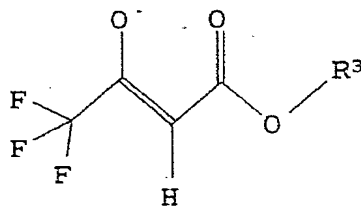
R¹ and R² are each independently hydrogen, an optionally substituted linear C₁-C₄-alkyl radical or an optionally substituted benzyl radical

and

R³ is methyl or ethyl, characterized in that

- a) an alkyl trifluoroacetate is reacted with an alkyl acetate of the formula CH₃-CO-OR³ and an alkali metal alkoxide to give an enolate of a trifluoroacetoacetic ester of the formula (II)

M⁺



(II)

where

M = Na or K

and
R³ is as defined above,
and subsequently

- 5 b) allowing the alkali metal enolate of the tri-
 fluoroacetoacetic ester from stage a) without
 further purification is allowed to react
 directly with an amine of the formula NHR^1R^2 ,
 where R¹ and R² are each as defined above, in
10 the presence of an acid to give the 3-amino-
 4,4,4-trifluorocrotonic ester.
2. The process of claim 1, characterized in that the
 alkyl trifluoroacetates and alkyl acetates used
15 are the corresponding methyl or ethyl esters.
3. The process of claim 1 or 2, characterized in
 that, in stage a), the molar ratio of alkyl
 trifluoroacetate to alkyl acetate is set to from
20 1:1 to 1:5.
4. The process according to any of claims 1 to 3,
 characterized in that, from 0.9 to 3.0 mol of the
 alkali metal alkoxide are used per mole of alkyl
25 trifluoroacetate.
5. The process of any of claims 1 to 4, characterized
 in that the alkali metal alkoxide used is sodium
 methoxide, sodium ethoxide, potassium methoxide or
30 potassium ethoxide.
6. The process of any of claims 1 to 5, characterized
 in that the reaction in stage a) is carried out at
 temperatures of from 0 to 100°C.
- 35 7. The process of any of claims 1 to 6, characterized
 in that, on completion of stage a), excess alkyl
 acetate and/or alcohol is removed.

8. The process of any of claims 1 to 7, characterized in that the amine NHR^1R^2 is used in stage b) as a free base in anhydrous form.
- 5 9. The process of any of claims 1 to 7, characterized in that the amine NHR^1R^2 is used in stage b) in aqueous solution.
- 10 10. The process of any of claims 1 to 7, characterized in that the amine NHR^1R^2 is used in stage b) in the form of a salt selected from the group of hydrochloride, sulfate, nitrate, formate or acetate.
- 15 11. The process of any of claims 1 to 10, characterized in that the amine NHR^1R^2 used is ammonia, methylamine, ethylamine, benzylamine, dimethylamine or diethylamine, or a salt of these amines.
- 20 12. The process of any of claims 1 to 11, characterized in that from 1.0 to 10.0 mol, in particular from 1.1 to 4.0 mol, of amine are used per mole of alkyl trifluoroacetate.
- 25 13. The process of any of claims 1 to 12, characterized in that the acid is used in stage b) in an amount of from 1.0 to 10.0 mol per mole of alkyl trifluoroacetate.
- 30 14. The process of any of claims 1 to 13, characterized in that the acid used is acetic acid and/or hydrochloric acid.
- 35 15. The process of any of claims 1 to 14, characterized in that reaction stage b) is carried out at temperatures of from 20 to 200°C, in particular from 50 to 160°C.

16. The process of any of claims 1 to 15, characterized in that the water of reaction is removed continuously during the reaction of stage b).
- 5
17. The process of any of claims 1 to 16, characterized in that the reaction of stage b) is carried out in the presence of an organic hydrocarbon as an azeotroping agent.
- 10
18. The process of any of claims 1 to 17, characterized in that the azeotroping agent used is a solvent selected from the group of hexane, octane, cyclohexane, methylcyclohexane, benzene, toluene or the xylenes.
- 15
19. The process of any of claims 1 to 18, characterized in that the reaction mixture is worked up by extraction and subsequent distillation.
- 20
20. The process of any of claims 1 to 19, characterized in that stages a) and b) are carried out successively in the same reaction vessel.